

CLAIMS:

1. An integrated display system comprising:  
a first display having a display area that faces  
a user;

5 a second display having the display area that  
faces a generally vertical direction; and  
a transmissive/reflective mirror having a mirror  
face between the first display and the user,

10 wherein images from the first display at least  
partially pass through the mirror face towards the user,  
and images from the second display are at least partially  
reflected by the mirror face towards the user, so as to  
present a composite image comprising the images from the  
displays to the user.

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2. The integrated display system according to claim  
1, wherein the display area of the second display faces a  
generally upward direction towards the transmissive/  
reflective mirror.

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3. The integrated display system according to claim  
1, wherein the display area of the second display faces a  
generally downward direction towards the transmissive/  
reflective mirror.

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4. The integrated display system according to claim  
1, the system further comprising one or more third  
displays, each having the display area that faces the user,  
wherein the display areas of the first and third displays  
30 are on substantially the same plane, so that the composite  
image appears substantially flat.

5. The integrated display system according to claim 1, the system further comprising one or more third displays, each having the display area that faces the user, wherein the display areas of the first and third displays 5 are at an angle with respect to one another, so as to make the composite image appear to be on an angled display.

10 6. The integrated display system according to claim 5, wherein the images from the first, second and third displays appear to the user to be substantially equidistant from the user.

15 7. The integrated display system according to claim 1, the system further comprising one or more third displays, each having the display area that faces the user, wherein the display areas of the first and third displays are at an angle with respect to one another, so as to make the composite image appear to be on a curved screen.

20 8. The integrated display system according to claim 1, the system further comprising one or more fourth displays, each having the display area that faces the generally vertical direction, wherein the display areas of the second and fourth displays are on substantially the 25 same plane, so that the composite image appears substantially flat.

30 9. The integrated display system according to claim 1, the system further comprising one or more fourth displays, each having the display area that faces the generally vertical direction, wherein the display areas of the second and fourth displays are at an angle with respect

to one another, so as to make the composite image appear to be on an angled display.

10. The integrated display system according to claim  
5 9, wherein the images from the first, second and fourth displays appear to the user to be substantially equidistant from the user.

11. The integrated display system according to claim  
10 1, the system further comprising one or more fourth displays, each having the display area that faces the generally vertical direction, wherein the display areas of the second and fourth displays are at an angle with respect to one another, so as to make the composite image appear to  
15 be on a curved screen.

12. The integrated display system according to claim 1, wherein the images from the first display are at least partially overlapped with the images from the second  
20 display.

13. The integrated display system according to claim 12, wherein the images from the first display is edge blended with the images from the second display so that the  
25 composite image appears as an apparently seamless image.

14. The integrated display system according to claim 1, the system further comprising distortion control circuitry, wherein the distortion control circuitry is used  
30 to modify the images in order to correct aberration due to mechanical or optical misalignment.

15. The integrated display system according to claim 1, the system further comprising a pair of electronic shutter glasses to provide 3-D stereoscopic view of objects displayed on the composite image.

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16. The integrated display system according to claim 15, wherein the pair of electronic shutter glasses comprises liquid crystal shutter lenses.

10 17. The integrated display system according to claim 1, the system further comprising polarized glasses, wherein polarization of light for the images transmitted through or reflected from the transmissive/reflective mirror is sequentially altered and resulting images are viewed by the user through the polarized glasses in order to see 3-D stereoscopic view of objects displayed on the composite image.

15 18. The integrated display system according to claim 1, further comprising a first image source for providing the images to the first display and a second image source for providing the images to the second display, wherein the composite image comprises a single continuous image.

20 19. The integrated display system according to claim 1, further comprising a first image source for providing the images to the first display and a second image source for providing the images to the second display, wherein the composite image comprises a plurality of images that do not 25 form a single continuous image.

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20. The integrated display system according to claim 1, wherein at least one of the first and second displays is coupled to a plurality of image sources, and wherein the system further comprises a switch for switching between 5 images from the image sources.

21. A method of generating a composite image using a transmissive/reflective mirror, the method comprising the steps of:

10 projecting a first image towards a user through the transmissive/reflective mirror; and

applying a second image at the transmissive/reflective mirror for the second image to be reflected towards the user,

15 wherein the images appear as a composite image to the user.

22. The method according to claim 21, wherein the second image is applied at the transmissive/reflective 20 mirror in a generally downward direction.

23. The method according to claim 21, wherein the second image is applied at the transmissive/reflective mirror in a generally upward direction.

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24. The method according to claim 21, the method further comprising the step of:

projecting one or more third images towards the user through the transmissive/reflective mirror,

30 wherein the first and third images are applied such that the first, second and third images appear as a substantially flat composite image to the user.

25. The method according to claim 21, the method further comprising the step of:

5 projecting one or more third images towards the user through the transmissive/reflective mirror,

wherein the first and third images are applied such that the first, second and third images in the composite image appear to be at an angle with respect to one another.

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26. The method according to claim 25, wherein the first, second and third images appear to the user to be substantially equidistant from the user.

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27. The method according to claim 21, the method further comprising the step of:

projecting one or more third images towards the user through the transmissive/reflective mirror,

20 wherein the first and third images are applied such that the first, second and third images in the composite image appear to the user to be on a curved screen.

25 28. The method according to claim 21, the method further comprising the step of:

applying one or more fourth images at the transmissive/reflective mirror for the fourth images to be reflected towards the user,

30 wherein the second and fourth images are applied such that the first, second and fourth images appear as a substantially flat composite image to the user.

29. The method according to claim 21, the method further comprising the step of:

5 applying one or more fourth images at the transmissive/reflective mirror for the fourth images to be reflected towards the user,

wherein the second and the fourth images are applied such that the first, second and fourth images in the composite image appear to be at an angle with respect to one another.

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30. The method according to claim 25, wherein the first, second and fourth images appear to the user to be substantially equidistant from the user.

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31. The method according to claim 21, the method further comprising the step of:

applying one or more fourth images at the transmissive/reflective mirror for the fourth images to be reflected towards the user,

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wherein the second and fourth images are applied such that the first, second and fourth images in the composite image appear to the user to be on a curved screen.

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32. The method according to claim 21, wherein the first and second images are at least partially overlapped with one another.

30 33. The method according to claim 32, the method further comprising the step of edge blending the first and second images to make the composite image to appear as an apparently seamless image.

34. The method according to claim 21, the method further comprising the step of performing distortion control to modify the images in order to correct aberration 5 due to mechanical or optical misalignment.

35. The method according to claim 21, wherein the first and second images comprise 3-D stereoscopic view of objects when viewed using a pair of electronic shutter 10 glasses.

36. The method according to claim 21, wherein polarization of light for the images transmitted through or reflected from the transmissive/reflective mirror is sequentially altered and resulting images are viewed by the user through polarized glasses in order to see 3-D 15 stereoscopic view of objects displayed on the composite image.